A special food for Easter week is
796 tamales of black corn mixed with layers of
[262] boiled beans milled on the metate.

MINOR FIESTAS

A number of calendrical church affairs receive minor attention. The day of San Juan, June 24, boys ride about the streets on horseback. Girls fasten live pigeons with cords, and men of the family raise and lower them from the housetops. The boys try to catch the pigeons. If they succeed and the pigeon survives, they take it home. If pigeons are not available, chickens of similar size are used. Christmas, New Year's, and the Day of Kings also receive special attention. As these functions are carried on by *cargueros* or *mayordomos*, their description is left until later. The Day of the Dead is also in some measure a community celebration. As has been noted, the *municipio* requires the young men to clean up the cemetery for this occasion. The actual ceremonies, however, are individual and are described in connection with the death rites.

SECULAR FIESTAS

527 A number of minor fiestas appear to be celebrated which have no religious motivation connected with the church. These are patriotic affairs and are not taken very seriously. On May 5 there is a procession with the band. The bells of the church are rung and *cohetes* are fired. On September 16, Independence Day, there are usually a parade, music, and perhaps a speech or two. A great many people get drunk over the week end, but there is little formal celebration. In 1940 the Cherán band went to Chilchota for the fiesta, and there was even less celebration than usual.

HOUSE-ROOFING FIESTA

342 Although most private fiestas are described
574 elsewhere, the fiesta celebrating the roofing of a house is described here because the data on house construction have been published in another paper (Beals, Carrasco, and McCorkle, 1944). A house-roofing fiesta is celebrated whenever the shakes are put on a new house. The following account describes the fiesta held by Pedro Chávez.

The house-roofing fiesta is virtually an obligation on the part of the house owner. He is

342 always assisted by various relatives, who also put pressure on him to hold the event. For 574 the Chávez fiesta one of the wife's cousins provided the music. A relative of the husband [602] provided atole; other relatives of the husband supplied *charanda* or *aguardiente*, as did one of the *compadres* of the husband.

A day or two before the fiesta, the house owner gives cigarettes and matches to the master carpenter. The latter offers cigarettes to various relatives and *compadres* who agree to come and help with the roofing. During the actual work, the relatives of the house owner hand up shakes and nails to the workmen but do not put any shakes in place. The shakes [335] are put in place and nailed by the master carpenter and his relatives and *compadres*.

In the morning of the house-roofing day, two *cohetes* are fired to notify people that the fiesta is to take place. The guests assemble in the late forenoon. The men go to work at the [602] roofing; the wife's female relatives assist in the cooking. When the roofing is nearly finished, *charanda* is circulated among the workmen. The women also make an arch with flowers. This is placed over a cross placed on the ridge pole when the roof is finished. The relatives and helpers now eat, the men eating first. *Compadres* of the husband assist in the serving, the host merely supervising. The men sit on two long logs, and baskets of tortillas, dishes of salt, baskets of tamales, and jars of water are placed on the ground between the two logs. Each man is served a bowl of *curípo*, beef stew with cabbage and chile (pl. 7, upper left). After the men have finished, the small boys are fed in the same way. The women eat in the part of the yard where cooking is going on.

After the meal was over in the fiesta ob- [533] served, the musicians (a stringed orchestra) arrived. They should have arrived before the meal, but the cellist was sick and it was necessary to send to Nahuatzen for another, who was late in arriving. The musicians are served before they begin to play. The women relatives of the host now bring fruit, which they present to the female relatives of the wife. Everyone is then served a bowl of black atole and a piece of bread. The female relatives of the master carpenter now arrive. They are seated on a mat near the space cleared for dancing,

1:Beals E-5 (1940-1941)1946 NU34 Tarasco NU34
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342 and are served. While all this is going on, a few women start dancing.
574 Before the last arrivals finish eating, most of the women leave with the musicians to bring the *cuelgas* and to bring the relatives of the wife who had been preparing them. The *cuelgas* are women's narrow belts to which are tied pieces of bread in the shape of animals, mostly bulls, thin tortillas made of wheat, and paper flowers. There are also some figures of animals, such as birds and mules, made of painted corn husks and filled with *pinole* (parched corn flour). The house owner is decked with several of the *cuelgas*. Single *cuelgas* are also put on some 20 men present, including the master carpenter and various uncles and cousins of the house owner. (At the Chávez festival the mayor and his alternate arrived about this time.) They are not fed but are offered drinks. Everyone now starts to dance. Dancing and drinking continue until late at night.

[273] The host, on the occasion observed, drank very little. The following day his relatives returned with bottles, saying now he had really to drink with them. He did, for about 3 days.

FIESTAS IN OTHER TOWNS

796 A few data collected on fiestas from other towns may be of interest here. None of the data are complete in any respect, but some similarities and differences are apparent. Properly, many of the fiestas described are part of Cherán culture, for many people from Cherán attend them either as visitors or as participants. The band, of course, goes to many fiestas. Other people go to sell goods, barbers often go to pick up some business, and so on.

Like most Tarascans, the people of Cherán pay special reverence to the miraculous Christ of San Juan Parangaricutiro, perhaps better known as San Juan de las Colchas, a former Tarascan town but now primarily a Mestizo village some 15 miles west of Uruapan. Many Cherán residents take vows to make pilgrimages to the saint on September 14 for various reasons, for example, if they are going on a long journey. The father of Agustín made such a vow when he went to the United States. When he returned safely 27 years later, he kept his

1:Beals E-5 (1940-1941)1946 NU34 Tarasco NU34
[p.1946]

291 based on actual inventories of a few middle-class homes and persons.

343 In addition to a house and kitchen, which constitute the Cherán minimum of decent housing, there are also many other structures to be built, mostly by the man himself. If he has burros or cattle, he will have a shed used as a stable when the animals are kept at the house. A pigpen is usually built of small poles, often with a shake roof over all or part of it and an opening to the street. Additional storage space for fodder or straw is often provided, usually a pole construction roofed with shakes. The lot needs to be fenced with poles and the street side preferably should have a wall of stone or stone topped with adobe bricks. A substantial gate with a sheltering roof is regarded as a virtual necessity.

593 Most of the family life goes on in the kitchen. Cooking, eating, and sleeping all take place in
342 the one structure. In fine weather, people may sit outside or sit on the porch of the house. Guests may sleep in the house, and when a son marries he and his bride will occupy the house for a year or more. Much of the business of living takes place in the lot, in the fields and mountains, and in the streets of the town.

593 When children come, the acquisitive activities of the family become even more important.
556 Now, not only is there a desire to secure the minimum of housing, food, and clothing, as
581 well as the property to make these things possible, but there is the urge to obtain resources with which to start the children out in life. Efforts are made to obtain additional fields and to buy lots so that when the children marry they can immediately have their own home and their own means of subsistence in what Cherán residents regard as the most satisfactory way, that is, by possessing sufficient farm lands.

593 As solid citizens the family members will also have additional responsibilities. At least
556 one out of four families will hold a *mayordomía* at some time. The father will also serve as
554 *comisionado* for various fiestas, perform some community labor, and serve on the night watch. He may also take some position in the church organization or occupy some office in the municipal government. If he can read and write he almost certainly will at some time be chosen for an office.

1: Beals E-5 (1940-1941) 1946

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PLOWING, DITCHES TO PROTECT FIELDS, LOG HEWING, AND CHERÁN PLAZA DURING FIESTA.

Upper (left): Plowing on the plain. Augustín, at the plow, wears felt hat, shirt, trousers, belt, and shoes; workman at left, less acculturated, wears straw hat, sandals, and mechanic's overalls. *Upper (right):* Squaring a log with an ax before sawing it into planks. *Lower (left):* A hill-slope field, with new ditch (center) and overgrown bank surmounted with thorny brush (foreground) to protect it from animals. Agaves are planted on right of ditch. *Lower (right):* Portion of Cherán plaza during the fiesta of the patron saint.

[End Plate 4]

In the last area, information was also secured from residents of Cuanjo and Puácuaro, but these villages were not visited.

Many informants were used, but those most employed in Cherán were Pedro Chávez and Agustín Rangel; in Paracho, Maximino Estrada, master carpenter; and in Angahuan, the brothers José and Miguel Bravo.

Tarascan words are written in the alphabet approved by the Consejo de Lenguas Indígenas. Unless otherwise indicated, Tarascan words are from Paracho or Cherán (the two are only 6 miles apart, and dialect differences are slight). Spanish words are italicized, but if the word has a special regional meaning not found in standard dictionaries, it is placed in quotations and the meaning is explained the first time the word is used. Names of towns are in the local Spanish spelling.

THE TARASCAN TOWN

on the Lake and some of the Sierra villages, such as Urapicho, the plan is irregular and the streets have steps.

If the town is of any size, it usually is divided into from two to four districts known as *cuarteles*, or *barrios*. The town tends to center on a plaza, where usually is to be found a municipal building, the school, and the church, although the latter may not be directly upon the plaza. In most cases, a fenced cemetery exists before the church, but in some towns it has been replaced by a new cemetery on the outskirts. A stone cross still stands in the center of the cemetery in most towns.

Two clearly defined types of construction exist in the Tarascan area: wood, and a combination of adobe bricks and stone masonry laid in adobe mortar. In the region of the Sierra, the majority of houses are of wood with shake roofs. Adobe-and-masonry construction with tile roofs predominates in the region around Lake Pátzcuaro, the district of Zacápu, the region known as La Cañada, and the district of Zamora. The division, however, is not absolute. Adobe-and-masonry structures, sometimes with tile roofs, sometimes with shake roofs, are found in most of the towns of the Sierra, especially in the larger settlements and

342 where Mestizo influence is marked. Nevertheless, in some towns, such as Capacuaro, almost the only nonwooden structure is the church. Structures of wood also occur in the other districts, although they are relatively rare.

The difference in materials used apparently has a geographic basis. The Sierra region has abundant forests, while often lacking sufficient water to permit easy manufacture of adobes or

[continued on p. 76]

The Town of Cherán THE TOWN

361 The town of Cherán lies at the head of a broad valley about 1,300 feet (400 m.) above the valley
133 floor at an elevation of 8,500 feet (2,500 m.) (pl. 1, lower). The terrain slopes rather steeply toward the west. A small ravine forms the western half of the south boundary of the town; the eastern half of the south boundary lies beyond the ravine. A much larger ravine forms the north boundary of the town. A branch of this ravine runs through the town and partly isolates the northeast *barrio*, or *cuartel*. Springs at the bottom of this ravine
[312] afford part of the water supply. A pipe-and-wooden-trough system also brings water from a spring 9½ miles (15 km.) away to cement tanks in the approximate center of the town as well as to a fountain in the plaza, which lies north of the center.
[135] At the northeast is a small cinder cone, which affords most of the stone used for buildings and fences. The town encroaches on the slopes of the cone on the east and south. The northeast *barrio*, or *cuartel*, climbs part way up the slopes of another cinder cone.

363 Most of the streets of the town are oriented to the cardinal directions, and the central part of town is subdivided into rectangular blocks. In some sections irregularities of the terrain have led to modifications of the block plan; in these sections streets may follow the curving contours. Streets vary in width from mere pathways to about 40 feet (12.2 m.). In the heart of town they are often paved with small cobblestones and have a central drain or gutter. Stone-paved sidewalks are common in the middle of town. The main north–south street is traversed by the Carapan-Uruapan highway and was paved with oil macadam in 1940.

[p. 7a] [continued bottom of page 7-b]

342 tiles. The other areas have abundant water, but the forests are distant. An exception is the Sierra town of Tarecuato, where, despite abundant forests and the relative scarcity of water, most of the houses are of adobe. In the Sierra it is also becoming increasingly difficult to secure materials for large houses. This fact, together with Mestizo [177] influence, probably is contributing to the spread of adobe, or stone-and-adobe construction.

OF CHERÁN The Town of Cherán

361 The church, parish residence, school, and the municipal building all front on a central plaza. Except for benches and a fountain, the plaza 363 is bare. Cement sidewalks and a surrounding paved area are contributions from the highway construction.

The width of the building lots varies from 10 or 361 12 feet (3 to 3.6 m.) to almost an entire block. 351 The depth in most cases is half that of the block, but in some cases it may be little more than 20 feet (6 m.). As a general rule, however, except in the center of town, the lot is large enough for a small garden, a few fruit trees, and at least a small area devoted to growing types of corn not ordinarily cultivated in the fields (fig. 2). The size of lots varies appreciably, though, in various sections of town. There is no general rule for placing the house upon the lot except in the center of town, where it usually abuts the street, especially if it is of adobe-and-masonry construction. If the house does not front on the street, a fence, generally of stone, is built along the street line. It usually is designed to keep out all animals including pigs, and customarily is above head height so passers-by may not peer over. The interior boundaries are also fenced, but the fences are often less substantial (pls. 2, lower; 3).

The lots are all owned individually. They may 351 be bought or sold freely and may be subdivided in 423 various ways. A man with a large lot may sell a portion, creating two lots. Sometimes a man who may wish to enlarge his holdings will buy a strip from an adjoining lot or even the entire lot and merge the two pieces into a single lot. Heirs may also divide lots.

343 The measure of the back wall is also the length
335 of the front, center, and back foundation beams and the "*planchitas*." The side-wall measure is the length of the short foundation beams; the floor planks are a little shorter. The top wall planks, cornices, the beam over the veranda pillars, the planks for the loft floor, and the "*planchas*" holding the ends of the rafters are all one *vara* longer than the corresponding measurements at the lower floor. "*Trojes*" of 6 or 7 *varas* are the most common.

493 A "*troje*," or house, may be moved completely to a new location in from 1 to 1½ days. Each piece is marked as the structure is dismantled and then reassembled in the same order. As many of
[211] the men cannot read, the side boards are marked with a symbol for each side and then numbered by a series of tally lines. A master carpenter is hired primarily to supervise the work and to make sure that the foundation frame is level.
[602] Relatives of the owner do the rest of the work and are fed, but receive no pay.

343 A "*troje*," or house, may last 50 to 100 years or more, if not destroyed by fire. Cases where "*trojes*" have lasted longer than 80 years are exceptional. However, the roof shakes must be replaced at intervals. Pine shakes last only about 6 years, fir shakes about 10 years.

342 Tarascan kitchens are of two types. The
335 simpler structure is called "*torita*," or kosína tórueri in Cherán (kosína kukuarékata, in Angahuan). It has no loft or veranda. The floor plan is rectangular, with the door on one of the short sides. The roof has two sheds (fig. 9; pls. 5, upper, left; 6, upper, left). Subtypes may be distinguished according to the method of supporting the corner posts. In "*cocinas de pie derecho*," the corner posts rest on wooden foundation beams, while in "*cocinas de horcón*," the corner posts are set in the ground. Further differentiation may be made according to the presence or absence of a ridge pole.

The "*cocina de pie derecho*" starts with four foundation beams of heartwood, morticed at the corners and resting on four small stones. Four corner posts (aŋájtarakua) of heartwood of pine are morticed into the foundation beams. The posts have grooves on two sides to receive the

3:Beals, Carrasco & McCorkle E-5 (1940-1942) 1944
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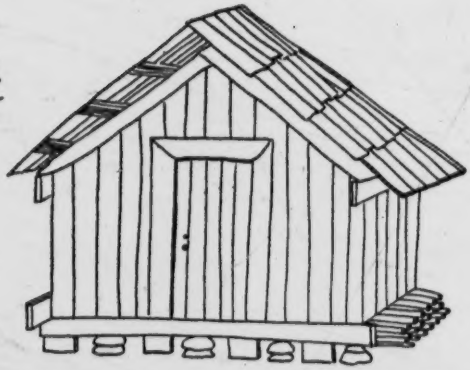

A KITCHEN

FIGURE 9.—Kitchen of simpler style (kosína tórueri).

wall planks or boards. The side-wall planks run horizontally, while those at the two ends are vertical, resting in grooves cut in the foundation beams or made by strips of wood nailed to the beams. The door is in one end (center of a short dimension of the structure) and is framed in the same manner as is the house door.

The tops of the corner posts are notched to receive two "*remates*," planks longer than the planks of the side wall and forming the top of the side walls. The vertical planks forming the front and back walls fit into grooves cut in rectangular rafters supported by the corner posts.

If the roof has no ridge pole, the frame is formed by pairs of rafters resting on the top planks of the side wall and joined together at the top. To the rafters are fastened stringers to which the shakes are nailed. In case a ridge pole (uanájɨkua) is used, it rests in notches cut in triangular pieces cal d "*burro*" or "*zoquete*" which are placed above the door and the center planks of the rear wall. The rafters then rest on the ridge pole and the top planks of the side wall. Such a kitchen takes about 15 days' labor to build.

In "*cocinas de horcon*," four square posts (aššáma) are set in the ground. Construction of the walls then proceeds in the fashion described above. This type of kitchen always has a ridge pole which is supported by two additional posts, one at each end. The door necessarily is at one side, not in the center as is usual in the "*cocina*

[p. 15a]

342
335 *de pie derecho.*" Both types have an earthen floor.

The above types are by far the most common and constitute the actual dwellings of the great majority of the Tarascans. Many variations from the described types occur due to differences in the skill of the builders and the economic resources of the owners. Dimensions vary according to table 2.

TABLE 2.—*Relative dimensions of kitchens in varas*

Short side	Long side	Height of wall	Length of rafters	Number of shakes[1]
4	4½	1½	3	600
5	6	1¾	3½	1,000

[1] This figure applies if a double layer of shakes is used; often only one layer is used, in which case the number of shakes is halved.

The more elaborate of the two types with its foundation beams, morticed corner posts, and roof without ridge pole, is said to be relatively modern. Formerly, no foundation beams were used; the corner posts were set in the ground, and a ridge pole was always present. The stringers were fastened to the rafters with wooden pins, while the shakes were fastened with wooden nails. Another way of fastening the shakes was to let the stringers project. Another stringer was then laid on the top of the shakes and the two tied together at the ends. Alternatively, the upper stringer might be held down with rocks.

Another and better type of kitchen is known as trója kosína or kosína uiípiti (round kitchen),[4] and more closely resembles the house, or "*troje.*" The ground plan is square. The construction differs from the "*troje*" in only a few details. There is no loft and no veranda (pl. 6, upper, right). Two horizontal planks are morticed into the rear of the side walls and extend across the back of the kitchen to form two shelves. These shelves often occur in simpler kitchens, too.

The absence of the loft floor requires some change in the roof frame. Resting upon the uppermost planks of the wall are several cross beams. The simplest way is to place three beams running from front to back, one in the center and

[4] The term round is also applied to a type of square house (see p. 17). After much questioning, Carrasco was told the term round is used because the structures are square rather than rectangular. This sounds like a rationalization. Round houses probably occurred anciently, although apparently they were not common (see p. 22).

[p. 15 b]

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335 one over each side wall. Upon these are placed the "*planchas*," and construction of the roof proceeds as in the "*troje*." In other cases, four squared beams are used. Two run from front to back, while two shorter beams run from the middle of each side wall to the nearest long beam (fig. 10). The "*planchas*" again rest on these. As in the "*troje*," the roofs have four sheds. A ventilator may be built in one shed (fig. 7, *a*, *b*).

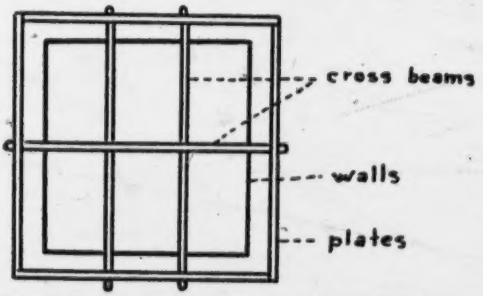

FIGURE 10.—Plan of ceiling in an elaborate kitchen (trója kosína).

The floor of these "round" kitchens is usually of earth owing to the character of the fireplace. In Paracho, however, a raised fireplace, called a "*chimenea*" (fig. 12), permits a wooden floor. Two additional foundation beams are placed as in figure 11. A wooden floor is then laid, leaving a space one meter square open for construction of the fireplace.

This type of kitchen varies from 4 to 7 *varas* in its longest dimension. As in the house, the topmost wall planks and the "*planchas*" are a *vara* longer than the other wall planks.

Although the kitchens, particularly the simpler type, are relatively inexpensive, they still may cost more than a man may be able to pay. In this case, he may construct one without the services of a carpenter. As a result, one sees all sorts of approximations of the types described. Perhaps most common is a structure in which the roof is supported by four posts set in the ground and the walls filled in with any convenient material—planks, lumber fragments, old shakes, and so on. A lean-to against a wall may also be used (fig. 7, *b*).

In Angahuan, and to a lesser extent in Parícutin and San Juan Parangaricutiro, storehouses (called tímutakata in Angahuan) are built on four posts some two meters (6 ft.) in height. Often these

3:Beals, Carrasco & McCorkle E-5 (1940-1942) 1944
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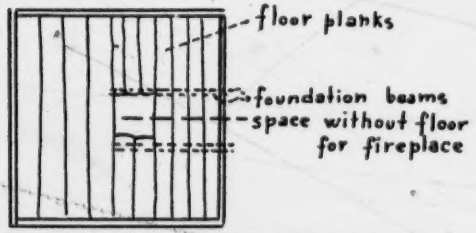

FIGURE 11.—Plan of floor of an elaborate kitchen (seen only in Paracho).

structures are at the entrance to the lot, but may also be inside (pl. 6, middle (right) and lower (left)). Two beams connect pairs of posts and a floor of planks is laid across these. Upon the planks rest four "*planchas*," supporting a roof similar to that of the "*troje*." The entrance is either through the floor or one of the gable ends. The floor plan is always rectangular.

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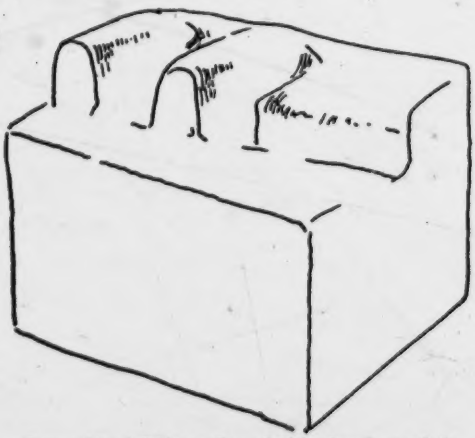

FIGURE 12.—A "*chimenea*," or raised fireplace (seen only in Paracho).

In Angahuan, the lower part of these structures is often walled and the structure then serves the function of a "*troje*." Often the walls are made simply of shakes or old boards, but sometimes the posts rest on foundation beams and the wall planks are well fitted (pl. 6, lower, center). In this case, the floor plan is square and, except for this, the structure is a "*troje*." Such square structures have a wide distribution and are called "*trojes*" in some towns, such as Paracho, but in Parícutin

[p. 16 b]

342 they are called round houses (k'utá uiípiti). The
335 latter term is known but not used in other towns.

In Capacuaro occur storehouses, called "*huacal*" (uakáli), made of four walls of interlocked logs or planks with a simple roof of two sheds (pl. 6, lower, right). In some other towns, the same type is made in the fields. The structures are used to store wheat before thrashing or to store straw for animals.

Occasionally, houses built on the edge of the street have the street wall of stone or stone and adobe, while the remaining walls are of wood.

In the Lake Pátzcuaro and La Cañada towns, a few old "*trojes*" are found. They resemble those of the Sierra but, except for two cases in Janicho, the roof is different. At either short end a triangular structure of adobe, "*capisayo*," is erected on the wooden walls and sustains a ridge pole. Rafters run from the ridge pole to the "*planchas*," or plates, in front and back. Stringers attached to the rafters support a roof of either shakes or tile (pl. 6, middle, left).

ADOBE-AND-MASONRY HOUSES

342 In its simplest form, the house with walls of
333 stone (ɬanɬákata), "*casa de pared*," or stone and adobe, has one rectangular room with the door on one of the long sides. Occasionally, houses of more than one room are encountered or even of two stories. The latter seem very recent and commonly belong to Mestizos.

Masonry is always used as the foundation, "*relleno*," of an adobe wall. In some cases,

342 masonry is used to complete a wall; in others,
333 the upper part of the wall is completed in adobe brick. In the latter case, the stonework wall is carried up at least half a meter (20 in.) above ground level.

Masonry is always extended about 50 cm. (20 in.) below the ground surface, whether used only as a foundation or for the complete wall. The
[316] stone used is the volcanic tufa brought from a nearby cinder cone The walls are usually about 50 cm. (20 in.) in thickness. Larger stones are set with relatively flat faces outward. The flat faces will be dressed if this is imperative but no other shaping is done. To fill in irregular spaces in the wall face, stones of proper shape with one flat face are sought in the pile of materials. Small stone spalls are also employed abundantly to fill in any spaces between rocks. The mortar is of adobe mud mixed with animal dung, and the central part of the wall is filled in with irregular rocks and considerable quantities of mortar.

If the upper part of the wall is to be of adobe bricks, these also are laid in adobe mortar (fig. 13). Two sizes of brick are employed; the larger size results in a somewhat thicker wall. The mortar is the same as that employed for masonry. In the Sierra and on those islands in Lake Pátzcuaro where adobes are not made, the stone base is usually higher than elsewhere.

In construction, a professional mason is employed. He erects a frame to which strings are attached to keep the wall straight. He also uses a plumb line to keep the wall vertical. A trowel

3:Beals, Carrasco & McCorkle E-5 (1940-1942) 1944
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342 and a hammer are the other needed tools. As the
333 wall increases in height, a crude scaffolding is erected, usually on each side of the wall, and the mortar is placed on a small portable platform of planks (pl. 7, upper, left [5]).

[338] Adobe-brick walls are frequently finished with a coating of adobe plaster, plentifully mixed with animal dung if the wall is to be used for a house. Somewhat less frequently, a lime-plaster coating is used to cover the wall.

342 In Cherán, usually only front and side walls of
335 houses are made of brick or masonry. The back wall, and sometimes one side wall, will be of upright planks fitting into grooves in horizontal beams at top and bottom. Doors have door-jambs of stone and the doorposts rest on a stone base with a mortice to receive a tenon on the lower part of the post. A lintel at the top is morticed to the doorposts and extends beyond them on either side, being surrounded by masonry or bricks and supporting the wall if it continues above the door. Windows are made in the same way, but no stone is used.

Upon the leveled tops of the wall are laid wooden plates, or "*planchas*" (in this case also called "*plantillas*"). Across these are square joists, extending 2 or 3 feet beyond the walls. The ends are ornamentally carved. Across the ends of the joists, a second plate is sometimes laid and fastened to the joists with wooden pins, which sometimes pass through the joists and extend below them. The rafters are set into sockets

[5] The making of adobes and tiles will be described in another paper.

342 in this plate, or may be pinned directly into sockets in the joists. The frame consists of a 335 ridge pole supported by pillars from the walls and joists. The rafters are in pairs resting on the ridge pole. In large structures with tile roofs, additional pillars or braces may support the rafters (pl. 7, upper, right). The ends of the gable roof thus formed are usually closed with shakes. Sometimes a floor is laid over the joists to form a loft. Yet another common variant is a shake roof with four sheds similar to the roof of the "*troje*" (pl. 7, lower, left).

The wide eaves of this type of house usually extend to the edge of the sidewalk, a very convenient arrangement in a rainy country, although the purpose probably is to keep moisture away from the walls. No other feature so strikingly sets off the architecture of central Michoacán from that of the remainder of Mexico than do these wide eaves (pl. 8, left). Structures fronting on the plaza often have a corridor with supporting pillars.

342 Many structures of masonry and adobe brick
[177] are approximating Mexican architecture in their ground plans, particularly if they are of any size. Usually two or more large rooms front on the street. A large entry way with double front doors, wide and high enough to permit the passage of animals, usually will be between two of the rooms. On the side facing the inner yard, there is a wide earth or brick-floored veranda (fig. 14). Doors and windows may open on both the street and the yard. Floors of such structures

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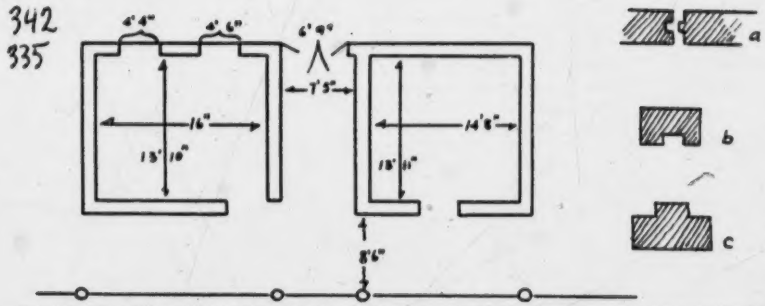

FIGURE 14.—Plan of house of Pedro Chávez, Cherán. Combination masonry and wooden walls. *a* shows tongue-and-grooving of vertical plank walls. *b* and *c* show notching of beams at top and bottom to receive wall planks, and (*c*) floor planks.

[p. 18c]

342 occasionally are of brick or cement but ordinarily are of wooden planks. There is also usually a kitchen of wood in addition to the masonry-adobe structure. The latter is more difficult to maintain in order and there is a reluctance to smoke up the interior.

423 Certain customs connected with the erection of masonry-adobe walls should be mentioned.
333 Often a division wall is erected between the forward part of two lots which may later be used as a house wall by either or both lot owners. If the cost of such a wall is shared, half the wall rests on the land of each owner. As frequently happens, however, one householder pays all the cost. In this case, the entire width of the wall is on the land of the person not contributing money. The latter, however, may use the wall as part of a house wall at any later time.

342 In the Lake Pátzcuaro and La Cañada regions, house walls are almost always of adobe on a low
333 stone-masonry foundation. Usually the houses
335 have a veranda or corridor. The walls are erected as described. Five heavy planks then serve as plates, "*planchas*," one on top of each wall and one supported by pillars at the outside of the veranda. Sometimes there are capitals, *zapatas*, between the pillars and the plate. The plates at the two sides extend from the wall to the pillars, or the side walls are extended to the edge of the corridor. In this case, no corner pillars are needed (pl. 7, lower, right).

Upon the plates on the two shortest walls is erected a triangular adobe structure, "*capisayo*" (kenzéjtakua). Across the other plates are laid joists, in the more elaborate structures extending well beyond the rear wall and edge of the corridor, and carved at the ends. If the joists do not extend beyond the wall and corridor, the plates on the short sides may go only from the outer edge of the corridor to a point part way to the opposite side of the house. In this case, the "*capisayo*" may be partially an upward extension of the house wall.

342 If the loft space is not used, shakes may be laid on the joists to form a ceiling; often this is
335 done only over the veranda. Alternatively, a plank floor may be laid.

Should the house lack eaves, two heavy planks, "*pisos*," are placed on the ends of the joists. Upon these rest the rafters. If the eaves pro-

342 ject, then the "*pisos*" are usually higher, sup-
335 ported by the adobes of the "*capisayo*," and another heavy plank is placed on the ends of the joists. The space between the wall and the ends of the joists is usually covered with shakes. The lower end of the rafters is supported by the "*piso*," the upper by a ridge pole (pirĵɟʌkua in Ihuatzio). The latter in turn rests on two wooden pieces, "*burrito*," or "*zoquete*," forming the top of each triangular adobe "*capisayo*" (pl. 7, lower, right).

Although the preceding roof type is the most common, simpler types are known. In some cases, one wall is lower than the opposite wall and a single shed roof is formed by sloping joists. It should be observed that similar types of construction are used in La Cañada and at Tarecuato. Moreover, examples of all types of stone-
[171] and-adobe construction may be found in nearby Mestizo towns.

SUPPLEMENTARY STRUCTURES

351 Supplementary structures consist of fences,
333 gates, and sheds for storage or for shelter of animals. Fences facing on streets are the most elaborate as a rule. They may consist of dry rock walls made by the house owner, but in the central parts of town are almost always of masonry or masonry topped with adobe brick (pls. 2, lower; 3, right). They are called sérka. The construction differs in no way from that for house walls. The top is covered with shakes held down with a wooden stringer and stones. Adobe fences are most common in the Lake Pátzcuaro and La Cañada regions. Often fences of poles (uaɟótakua)
351 are employed to divide lots, or especially in the
335 outlying sections of town, along the streets (pl. 3, left). Poles may also be used to raise a masonry or adobe-brick wall somewhat higher, in which case a row of shakes will usually be employed to give privacy as well. No orthodox construction is used for pole structures. One attractive but not very practical fence was made of dry cornstalks bound neatly at top and bottom to small poles. A fence of upright poles or planks is called ɟirindikua.

Gates are usually quite elaborate and serve to close openings to the street. Commonly, the gate is a well-made door, purchased from a carpenter, and swinging from two substantial upright posts. These posts are set in the ground and in addition

HOUSE

FURNISHINGS

342 The terms "house," or "*troje*," and "*cocina*" as
343 employed in the Sierra refer to the construction
196 of the house rather than to its use. Normally, each family has a house and a kitchen. In the kitchen, the family cooks, eats, and sleeps. The house serves as a storage place for all types of property. In it also is kept the image of the family saint. Sometimes in place of a "*troje*," a "*cocina de torito*" is floored and used for storage. Despite this shift in use, the structure is still called a "*cocina*," or kitchen.

343 The "*troje*" contains a minimum of furnishings.
353 The loft is used purely for crop storage and usually
778 has no furnishings whatever. The lower floor

352 are spread out for sleeping. The women sit on
516 the ground in kneeling position; the men either sit on their heels or on low wooden benches (burítu) or low chairs (uašánɛ́akua). In Parí-
[532] cutin, Ihuatzio, and some other towns, the benches are carved in zoomorphic forms. Hanging from the roof may be a shingle or small board on which to place small objects (sársu, *zarzo*). One or more wooden hooks (tirípatarakua) may hang from the ceiling. These and other items are illustrated in figures 16 and 17.

415 Usually outside the house there is one or more wooden troughs used for water storage (fig. 18).

In the Lake region, the furniture is similar, but
352 the clear-cut distinction in the use of structures is
342 lacking. Often one room serves all purposes.
184 If a separate kitchen exists, it may be just a lean-to against a wall of the house, open, or with
354 adobe walls. The use of the raised fireplace,

[continued on p. 246]

ECONOMICS OF THE TARASCAN HOUSE

THE LOT

435 Lot prices vary considerably in Cherán. At the present time, the tendency is to sell lots by front footage in the central area, but square meters (39.3 in.^{2}) are sometimes used as a base for prices also. In the case of lower-priced lots, probably the price is not set in terms of any specific area or frontage, but is the subject of discussion and ultimate agreement. In general, lots (without buildings) which front on the main street were valued in 1940 at 25 pesos a meter (39.3 in.). On the outskirts of the town prices were about 10 to 12 pesos a meter (39.3 in.).

WOODEN HOUSES

COST OF MATERIALS

342 The following tabulation presents the cost of
435 those materials which ordinarily are purchased according to various estimates. Variations in price are partly due to differences in size and quality, partly to the bargaining skill of the buyer, partly to the need of the vender to sell.

Pine planks, per doz., f. o. b.[1]	*Price in pesos*
Seven-*vara* (6.44-m.) planks 15 inches wide, 3 inches thick, dozen	6. 60
Range of other estimates	7. 00–9. 00
Delivery charge, heavy planks, per dozen	7. 00

[1] Price is about the same for 1-inch planks, which are shorter and must be sawed, and long 2-inch planks, which are adzed.

3:Beals, Carrasco & McCorkle E-5 (1940-1942) 1944
NU34 Tarasco NU34
Sierra Tarascans
Pátzcuaro

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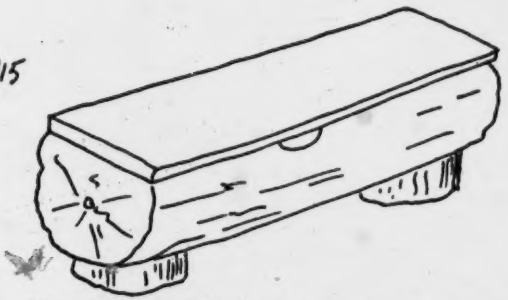

FIGURE 18.—Hollowed log with wooden cover used for storage of water outdoors.

354 "*chimenea*," is more common, and there often is also a special fireplace for the comal, a circular ridge of clay with an opening on one side to feed the fire similar to that shown for Cherán in figure 16.

ECONOMICS OF THE
TARASCAN HOUSE

	Price in pesos
435 Heavy square beams, each, f. o. b.	1. 50–2. 50
Delivery charge, each	1. 50
342 Veranda pillars, each, f. o. b.	1. 25–2. 00
Delivery charge, each	1. 25–1. 50
Shakes, bundle of 400	5. 00
Rafter poles, dozen	4. 00
Roof stringers, dozen	2. 50
Trap door	1. 50–3. 00
Door	2. 00–8. 00
Foundation stones, delivered average (2. 50 each)	9. 00–22. 50
Nails, per kilo	1. 00

Planks at Paracho were more costly in January 1942. Boards, six *varas* long, cost 0.75 to 1.25 pesos each, depending on width. Heavy planks cost according to length:

Length in *varas*:	Price in pesos
5	1. 50
6	1. 75
7	2. 00
8	2. 50
9	3. 00

Shakes, 5 *cuartas* (40 in.) in length; cost, 6 pesos per bundle of 400 (lrépeta).

COST OF CONSTRUCTION

Table 3 represents the most accurate account secured of the materials, labor, and costs of a wooden house, or "*troje*." This house was built in July 1940 at Morelos 31. Its outside dimensions were 16' by 14 feet (6 by 5.2 *varas*), and it was raised off the ground about 18 inches (46 cm.)

[p. 24 b]

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on nine large stones of hard gray rock brought from the barranca north of town. The porch was not floored. Other materials used were pine beams and planks, fir shingles, and nails. Doors were purchased ready-made.

TABLE 3.—*Materials, labor, and cost of constructing a wooden house, or "troje," at Morelos 31 in June 1940*

House parts	Materials used	Labor		Cost in pesos	
		In days	Description	Labor	Materials
Foundation	9 big stones [1]	½	Ox team and driver to haul.	[2] (2.50)	2.50
Foundation frame.	5 beams, 10×10 in.×16 ft. (0.25×0.25×4.9m.).				2.50
Roof base	4 beams, 8×8 in.×18 ft. (0.20×0.20×5.5 m.).				2.00
Floor	20 planks, 8×3 in.×16 ft. (0.20×0.067×4.9m.).	15	Straightening planks.	[2] 22.50	10.00
Walls	44 planks, 10×3 in.×16 ft. (0.25×0.067×4.9m.).				20.00
Ceiling	24 planks, 8×3 in.×18 ft. (0.20×0.067×5.5m.).				12.00
Door	1 wooden				8.00
Trap door	1 wooden				3.00
Porch-roof supports.	4 pillars, 9×9 in.×8 ft. (0.226×0.226×2.45m.).				8.00
Roof	15 poles				1.50
	18 stringers, 4–16 ft. long				3.50
	2,400 shakes, (6 trépitas)				30.00
Labor					
Carpenters		35	Contract	50.00	
Total		50½		72.50	103.00
Grand total		50½		175.50	

[1] Presumably quarried by builder.
[2] Included under cost of materials. *See* rocks for foundation.
[3] At rate of 3 pesos per dozen.

As in all other cases, informants did not include the cost of nails for fastening the roof shakes, the only place nails are employed. In this case, the builder made some of the planks, charging the value of his product into the estimates above. However, no costs were included for haulage, except possibly in the case of the pillars. If this was the case, the pillars were secured rather cheaply. We may, therefore, add the following items omitted in the above statement:

Additional costs:	*Price in pesos*
Nails, 3 kilos (probably a little generous)	3.00
Hauling beams and planks	60.00
Fiesta for roof raising	25.00
	88.00
Builder's estimate	175.50
Probable total if all labor paid for	263.50

In this case, probably the haulage was all done

[p. 25a]

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by the builder, and there may have been no fiesta for the roof completion. The builder sold the structure for 200 pesos and estimated he had made a profit of 25 pesos, plus payment for his work as a plank maker.

To gain a clearer idea of the cost of a house, a summary of all detailed estimates is given below. Unfortunately, these may cover different-sized structures, but they are said to be for average-sized buildings. Items the owner may have provided are indicated, in which case in some estimates the low entry might be considered zero; however, as we are anxious to get an average cost, this point is omitted for the present.

TABLE 4.—*Summary of detailed estimates of cost (in pesos) of a house, Morelos 31, June 1940*

Item	Estimates	
	Lowest	Highest
Foundation stones	[1] 9.00	22.50
7 dozen planks	42.00	63.00
9-10 beams	4.50	15.00
1 door	2.00	8.00
1 trapdoor	1.50	3.00
4 pillars	4.00	6.00
12-15 poles (rafters)	[1] 1.50	4.00
18-42 roof stringers	[1] 3.50	15.00
5 to 6 trépitas (bundles) of shakes, best-quality fir	25.00	30.00
2-3 kilos of nails	2.00	3.00
Haulage of planks	[1] 49.00	49.00
Haulage of beams	[1] 15.00	15.00
Haulage of pillars	[1] 4.00	6.00
Straightening planks	21.00	30.00
Carpenter's fee	50.00	50.00
Roof raising fiesta	[2] 20.00	[3] 50.00
Total	254.00	369.50

[1] Items owner might provide himself.
[2] Without music.
[3] If relatives do not help.

The lowest figure given here may be further reduced, as suggested, by the owner doing part of the work. If we reduce the lowest figure by deducting all the items which the normal Cherán man might do himself (if he owns oxen to do the haulage or may borrow them from friends or relatives) and eliminate the fiesta, we get the figure of 152 pesos. This is the least for which it would appear a Cherán resident may secure an averaged-size wooden house, or "*troje*," approximately 14 by 16 feet (4.27 by 4.88 meters).

This estimate of 152 pesos may be compared with gross estimates secured by McCorkle and Beals. These ranged from 180 to 300 pesos. Carrasco secured estimates of from 250 to 300 pesos. However, in every case where a gross

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estimate was obtained and then an itemized statement secured from the same informant, the total of the itemized statement ran well below the original gross figure given. A careful check of material costs indicates that the lower estimates probably are more nearly correct.

Detailed estimates on kitchens were not secured. A home-made affair could probably be made by any man by the purchase of two bundles (irépitas) of shakes for about 11 pesos (shakes 10 pesos, nails 1 peso).

One of several approaches used in getting costs was to secure estimates on a given section of wall for different types of construction. These estimates indicated that a 16½- by 16½- foot (5- by 5-m.) house, exclusive of roof, would cost 138 pesos; and a well-built kitchen the same size, 75 pesos, exclusive of the roof.

Carrasco secured estimates of 20 to 25 pesos for a poorly-made kitchen of the "*torito*" type in Cherán. The materials probably were second-hand. Even without any delivery charges, new materials would cost over 20 pesos, exclusive of labor. However, a "*torito*" could be built by most men without hiring a carpenter. A well-built "round house" kitchen, Carrasco was told, would cost about 100 pesos. This seems reasonable in terms of material and labor costs.

Carrasco secured comparative prices for Paracho which, considering the slightly higher cost of materials, probably are above the prices in Cherán. The figures also were obtained from a master carpenter, who obviously would have an interest in establishing higher prices.

Size of "*troje*" in *varas:*	*Labor cost*	*Total cost in pesos*
5	$60.00	250.00
6	90.00	300.00
7	110.00	400.00
8	130.00	500.00
9	150.00	600.00
Size of trója kosína in *varas:*		
4	30.00	60.00
5	45.00	85.00
6	70.00	125.00
7	100.00	182.00
Size of "*torito*" in *varas:*		
4	25.00	50.00
5	30.00	72.00

[p. 26a]

3;Beals, Carrasco & McCorkle E-5 (1940-1942)1944
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MASONRY-ADOBE STRUCTURES

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The costs of materials and labor in building masonry-adobe structures are as follows:

	Total cost in pesos
Adobes:	
Small size (2½ spans long) per 100 [1]	2.50
Large size (3 spans long) per 100	3.00
Laying adobes, average cost, small size, per 100:	
According to one informant	2.00
According to another informant:	
To shoulder height	1.00
Shoulder height to 9.8 ft. (3 m.)	1.50
Above 9.8 ft. (3 m.)	2.00
Manure for mortar (2 sacks per 100 adobes) per large sack (this may be furnished by the mason)	0.25
Stones:	
Quarrying, per 100 [2]	2.00
Transporting, per 100	2.00
Mason's charges per sq. m. (householder to furnish water and materials)	1.00
Roofing tiles, per 1,000	25.00 to 30.00
Bricks (mostly used for flooring or corners and doors in masonry structures) per 1,000	32.00

[1] 100 adobes will make 43 sq. ft. (4 sq. m.) of wall; large-size adobes make a somewhat thicker wall.

[2] "100 stones" really means 50 burro loads and will make 43 to 53 sq. ft. (4 to 5 sq. m.) of wall.

Masonry appears to be somewhat more expensive than adobe construction. A wall 8 feet (2.46 m.) high, 16.5 feet (5 m.) long, and of normal construction with 1½ feet (½ m.) of masonry buried, would cost as follows:

	Price in pesos
Masonry-adobe (2 estimates)	19.65 to 21.00
With large adobes	23.00
All masonry (1 estimate)	27.00
The same extent of wall in the usual wooden house construction	23.00

The best indication of costs of masonry-adobe houses is supplied by a study of the house of Pedro Chávez, school teacher of Cherán, under construction during 1940–41. The costs were checked in every possible way, in terms of materials and labor and also in units. It probably represents as accurate an estimate of costs as can be secured.

The house itself presents certain peculiarities. The front and side walls are of adobe brick on the usual masonry foundation. The ground plan consists of two rooms with an entryway, or

[p. 266]

342 435 *zaguán*, between them. The walls facing the *zaguán* and the patio are of wood. A foundation of morticed beams resting on stones supports a wooden floor and walls. These beams are grooved as shown in figure 14. Wall boards are tongue-and-grooved, a type of construction used in Uruapan but new to Cherán. The wall boards are vertical and fit in a channel in the ceiling beams. One room has two windows opening on the street (fig. 14). The roof is of shakes. Chávez actually paid for only half of one side wall and nothing for the other (which rests entirely on his land), as his neighbor paid all the cost. In formulating the cost estimate, however, the wall was carefully measured, the number of adobes counted, and the cost of all masonry-and-adobe work was included in the total. All the woodwork was done on a [675] definite contract which included wood materials, so it is unnecessary to itemize this.

	Costs in pesos
Masonry, 32 m. (106 ft.):	
Stone	24.00
Mason's charges	32.00
Adobe [1]	70.00
Four stone bases for veranda pillars	10.00
Zaguán door (not included in carpenter's contract)	25.00
Carpenter's contract	275.00
Shakes, best grade, 8 bundles	40.00
12 kilos of nails	6.00
Total	482.00
Roofing fiesta (not including contributions of relatives)	30.00
Total costs	512.00

[1] 1,420 adobes were used; door and window openings make a lineal estimate impractical. This figure takes into account different mason's charges at different heights.

Two "*trojes*," or houses, of approximately the same size would cost between 500 and 600 pesos, but the above-described structure has much more loft storage space through utilization of the area over the entryway and veranda. The cost probably would be less if the interior walls were made of masonry and adobe. A tile roof would have cost between 100 and 120 pesos, adding 54 to 74 pesos to the cost. Its longer life would make it cheaper in the long run, however. The owner probably will lay a tile roof when the shake roof needs replacing. It should be remembered also that a kitchen will be employed apart from this structure.

[p. 279]

SUPPLEMENTARY STRUCTURES

435 The main supplementary structures to be con-
351 sidered are fences, gates, and sheds. The only fences involving expenditure are those of masonry-adobe. Costs are the same per meter as for a house wall.

The gate will vary in cost. Often it may consist of only a few planks, which may be second-hand material secured without cost, or even merely a pole or two laid horizontally across the opening. A well-made *zagudn* gate bought from a carpenter will cost about 17 pesos and up, depending on size. The balance of the gate, including the roof over it, will usually be constructed by the house owner. Ordinarily, the few shakes needed will be left over from house building or may be secured for a few cents.

435 Sheds are usually built by the householder. A
343 sizable shed roof might require a bundle of shakes costing 5 pesos. No nails would be used, the shakes being held down by rough-hewn strips of pine and stones.

COMPARISON OF COSTS

435 It is clear from the foregoing data that a ma-
342 sonry-adobe structure is as cheap or slightly cheaper than a wooden house, or "*troje*." It also has more storage space. On the other hand, it requires somewhat more care in upkeep and also more expense to make it look "right" to the Tarascan. The interior, for example, should have a coat of plaster of either adobe or lime and sand. Preferably, so should the exterior. Both should also be whitewashed or kalsomined. None of these costs are included in the estimates.

435 An interesting comparison is made in table 5
342 of the costs of the following four categories of Tarascan houses:

511 (*a*) What the Tarascan would conceive to be the minimal shelter, which would be far below the Tarascan standard of decency.

(*b*) Housing considered a poor standard but not impossible.

(*c*) A respectable standard for a small family.

(*d*) A high standard for a small family.

Only people of some wealth normally use masonry-adobe structures; consequently, only in this category have I shown costs for this type of housing, without including any "frills" for decoration or finishing.

[p. 276]

3:Beals, Carrasco & McCorkle E-5 (1940-1942) 1944
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TABLE 5.—*Costs of housing in Cherán*

Category of housing	Description	Cost in pesos
a. Minimal	One poorly built "*terîle*" kitchen	25-50
b. Low standard, small family.	One small trója kosina, or one "*terîe*" kitchen and one small "*troje.*"	175-200
c. Adequate standard, small family.	One medium trója kosina or "*terîe*" kitchen and one medium "*troje.*"	375-400
d. Wealthy	One large trója kosina and two good "*trojes.*"	550-600
	One trója kosina and two-room masonry-adobe house.	750

These figures show a very wide range, yet they still do not represent the true situation. Actually, of course, if a poverty-stricken person can persuade

[continued on P. 28 b]

RELATION OF HOUSES TO SOCIAL AND ECONOMIC STATUS

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Only in a general way is there correlation between house size and type to social and economic status. Very poor people would be in categories *a* or *b*. But relatively poor and relatively wealthy people will often be in class *c*. Where the family occupies a class *d* category, this will usually be owing to one, or a combination of the following things:

[592] 1. Size of household. Often two brothers, or a father and one or more married sons occupy the residence.

[continued bottom page 28 b]

[p. 28a]

435 a relative or friend to permit him to use a bit of
342 land—as many do—the cost of minimal shelter
511 could be as low as $11. By begging scraps, even this figure could be reduced. Such a housing situation would, however, be regarded as "frightful" by all Tarascans.

At the other end of the scale, there are numerous Cherán residents who have much more costly establishments than those represented under *d*. Relatively few are in the condition of *b;* the great majority of Cherán residents would fall in category *c* and a fair proportion in category *d*. The discussion of house use will illustrate this point.

RELATION OF HOUSES TO SOCIAL AND ECONOMIC STATUS

342 2. A special occupation, such as storekeeping, may be
556 followed.

3. There may be definite social pretensions. Of these three causes, the last seems least operative. Wealth is a necessary prerequisite to anything more elaborate than class *d* housing but wealth is often concealed. Numerous families in class *d* are far from wealthy by Cherán standards.

These judgments are somewhat subjective, but case material could be cited to support them.

[p. 28b]

3:Beals, Carrasco & McCorkle E-5 (1940-1942) 1944
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Sierra Tarascans

362 could be established, however, in which case the number of inadequately housed persons could be calculated from the data given.

362 194 Little comparative information is available on the subject of house use. In a number of areas where masonry-adobe structures predominate, however, it is apparent that the kitchen is not

[continued on p. 306]

CEREMONIAL AND SOCIAL FUNCTIONS RELATED TO THE TARASCAN HOUSE

CEREMONIES

342 Two ceremonial activities are common in connection with Cherán house construction. One is extremely simple; it consists of placing a cord, on which are tied several small bunches of flowers, over every door and window of the structure as the frame and lintel are completed. No particular beliefs connected with this could be discovered, but it is almost always done.

The second ceremonial event in connection with house building occurs when the shakes are placed on the roof. For such an event, called "*combate*," there is usually a sizeable fiesta, and most of the relatives of the owner come. Close relatives may also aid in the cost of the ceremony. In addition, the master builder and a corps of assistants attend the ceremony. It is virtually impossible to complete a house without holding this ceremony. In one case, an informant did not wish to give the ceremony (this occurred while working for the survey on which this paper is based), but first a cousin offered to supply the music for the fiesta, and then an uncle offered to supply the atole. Both insisted on knowing the date of the fiesta, and eventually the informant felt he had to hold it.

342 431 476 On the eve of the ceremony, the house owner takes about three packages of cigarettes and a box of matches to the master builder. With these, the builder invites his friends and relatives. If they accept an offered cigarette, they are obligated to appear to help finish the roof. The master builder, however, is obligated to respond to a similar invitation. These helpers nail on the shakes; the relatives of the house owner may assist in handing up the shakes and other needed materials, but they do not assist in the nailing.

All the relatives of the house owner are invited

[p. 30a]

362 used for sleeping ordinarily. This seems to be
184 true of the Lake, Zacápu, and Cañada sections. How far this is a function of the type of architecture and how far it is due to climatic conditions remains to be established. In general, the Sierra region is colder and sleeping is in the kitchen even where masonry-adobe buildings exist.

CEREMONIAL AND SOCIAL FUNCTIONS RELATED TO THE TARASCAN HOUSE

● 342 and are expected to attend or send excuses. When
431 they arrive, they give the householder or his wife
476 a package of cigarettes or 10 or 15 centavos, which is regarded as the equivalent of the package of cigarettes. The men present their cigarettes to the man of the house, the women to the wife.
[576] The man salutes those who make this present, tipping his hat and shaking hands. The women also shake hands and curtsey. The women help in the preparation of food, while the men help the master builder and his assistants with the roof.

342 After the work is well along, a bottle of *aguar-*
264 *diente*, or *charanda*, is circulated at intervals among those working. When the work is com-
476 pleted, the men are fed, then all the boys. They are all seated on two logs facing one another. Male relatives of the house owner assist in serving; sometimes a *compadre* will aid also if he is a particularly good friend of the householder. The women eat in a group near the fires where cooking
[262] is done. The food is the regular ceremonial food: tortillas, beef stew with chile and cabbage (čurípu), and tamales (kurúnda).

342 The master builder meanwhile leaves the house and shortly afterward returns with his wife and other immediate members of his family. They are seated on a mat facing the new house and are
[531] fed there. A cross with an arch over it, decorated with paper flowers, is set in the middle of the ridge of the roof. It is said to protect the house against violent storms and the devil.[6] The house

[6] Use of the cross on the house is common throughout the Tarascan area. In most of the Sierra towns, the crosses are only some 10 inches (25 cm.) in height, but in Particutin they are over a meter (39 in.) tall. Here the cross is placed against the house wall, and often with a vase or jar for flowers tied to it. Tile-roofed houses have the cross painted in white on the tiles, fastened to the wooden "shoe" supporting the ridge pole, or carved on the capital.

In Paracho, the priest is often brought to bless a new house. Two men go to request the priests' presence. They are regarded as godfathers of the house and become *compadres* of the house owner and the master carpenter.

342 owner, the master builder, and his helpers, and the nearer relatives of the house owner are now decorated with festoons of pieces of bread, some in the shape of animals, toasted wheat tortillas, and flowers. These are brought in a procession from the house of a relative. Women carry baskets on their heads and dance in the streets. The musicians accompany the party. The various articles are tied to the women's belts and then are hung about the necks of the men. These strings are called "*cuelgas*" (pl. 8, right). As a special guest, Beals was decorated with the others, and care was taken to explain to him that it was customary to return the belts. The master builder and, particularly, the house owner received several festoons of this kind.

Following this ceremony there was dancing, which lasted until late at night. In the particular [273] ceremony described, the householder drank very little. The next day several of the relatives returned with liquor and insisted that he get drunk with them as he had not drunk the day before.

The other major occasion on which ceremonies 483 occur in connection with houses is when a house is 342 moved from one location to another. A man 476 wishing to move a house to a new location hires a master builder to supervise the work. He also invites all his relatives, who are obligated to come. The women aid in preparing food, while the men take apart the house, carry it to the new location, and erect it again. The house owner takes no part in this work; in fact, he is apt to become drunk and be something of a nuisance. The relatives are fed at midday and again in the evening, but they do not ordinarily drink much until evening. Even then most of them are apt to go home before eating or immediately after eating. Ordinarily, a house will be moved completely in 1 day; sometimes, however, part of the roof will be unfinished, in which case a few men will return the next day to complete the work.

A special feature observed at a house moving, but nowhere else, was the serving of tobacco from the lowlands and corn husks for rolling cigarettes. At all other ceremonies the host frequently passed around cigarettes, but they were of the usual commercial type.

342 The house is the center of numerous other festivities and ceremonials, but they do not pertain to the house directly. The major occasions are

342 weddings, funerals, and *mayordomías*. In the latter type of ceremony, the image of a saint is kept in the house for a year. However, as the use of the house is incidental in all these cases, the ceremonies will not be described. It may be noted, however, that probably the image of a saint would not be entrusted to a family unless it had adequate housing for it Another special 342 feature in connection with weddings is also worth 585 mentioning. The most important ceremonial directly associated with a structure takes place, not in the house, but in the kitchen. This is a [608] ceremony where all the close relatives of the bride and groom enter into the relationship of the *compadrazgo*, that is, they assume the relationship of godparents to each others' children.

SOCIAL FUNCTIONS

342 The house is involved in a number of social usages and obligations. As a piece of moveable property, it may be sold or inherited independently of the land on which it stands. Sale or inheritance follows the same rules as exist for other property, however. As these rules will be treated in another paper, they will not be repeated here.

Residence rules operate with respect to houses. 591 Normally, after marriage, the bride and groom live for a time in the house of the groom's father. This may continue for several years, but, usually after the birth of a child, if not before, an effort will be made to establish the son in a house of his own. This may be done merely by erecting a separate kitchen for the new household. Ideally, however, the son will have a lot, house, and kitchen of his own. In exceptional cases, however, the family remains as a unit until the death of the father. All the sons live on the same lot, and the father directs economic activities and controls the family treasury. Such a household is said always to separate after the death of the father.

Ownership of a house entails numerous com- 651 munity obligations. A house owner, first of all, must pay taxes to the Federal Government through the local tax office. A percentage of these taxes goes to the municipal government also. The house owner is responsible for the re- 364 pair and cleaning of the street in front of his property. This is not strictly enforced; only street cleaning is demanded and this ordinarily

362 mitted by contact and particularly respiratory
164 and pulmonary infections. Although data are lacking, a high incidence of tuberculosis is suspected. There seems little to choose between various house types for health.

COMPARATIVE DATA

184 Most Sierra towns, on superficial acquaintance,
362 seem to have similar conditions. Local variations, of course, occur as the result of differences in rainfall and temperature (functions of location and altitude) and the number of animals kept (causing variations in the number of flies).

[Continued on p. 33b]

HISTORY OF THE TARASCAN HOUSE

342 In this section we try to determine the antiquity
173 of modern house types. We do not include all the data found in early sources referring to pre-Spanish houses and house uses, but base our study of the history of the Tarascan house on modern tradition and especially on the writings of the 16th century. Traditions appear to supply useful data concerning the last century or so. The houses of stone and adobe are usually considered to be relatively recent introductions in the Sierra region, but of older use in the Lake area.[8] This view is supported by the relatively greater frequency of stone and adobe in the towns showing most Mestizo influence. In the Lake region, it is remembered that wooden structures once were more frequent. In La Cañada, at Chilchota, the lack of adequate streets is referred to the older custom of building houses in the center of the lot.

Among the variant wooden-house types discussed, kitchens of poles and "*trojes*" and the trója kosína of logs are regarded as the oldest types. Tools, until recently were limited to the ax, adze, chisel, and awl. Shakes were fastened with wooden pins or stones.

Beyond a century, however, tradition is of no value. The pre-Hispanic Tarascans and those of a few generations ago are merged into "*los antepasados*" and, unless an historically known event is referred to, it is difficult to know to what period a tradition refers. So, even if data on

[7] This section is almost entirely the work of Pedro Carrasco.
[8] In this connection, it should be recalled that the Sierra uses the Spanish word adobe, while in the Lake area a native word (iauirukata) is known.

3:Beals, Carrasco & McCorkle E-5 (1940-1942) 1944
NU34 Tarasco NU34
Sierra Tarascans
Pátzcuaro
Cañada

362 In lower and drier areas such as La Cañada,
184 where different house types occur, information is inadequate to make any useful comparison. Masonry-adobe structures are probably less damp, but flies are more numerous. In the Lake region, there are also mosquitoes, apparently including those of the *Anopheles* genus. Dr. D. F. Rubín de la Borbolla tells us that in Tzintzutzan on Lake Pátzcuaro he suspects the population to be 100 percent infected with malaria. The cause of this, naturally, is only to a very slight extent related to housing conditions, although screening of sleeping quarters no doubt would somewhat lower the chances of infection.

HISTORY OF THE
TARASCAN HOUSE[7]

342 houses of the *antepasados* were given, they would
[173] be untrustworthy.

Some of the data available from the 16th
342 century refer to a wider area than that covered
127 by this study. These include the "Relaciones geográficas"[9] of the 16th century and the dictionary of Gilberti.[10] The "Relación de Michoacán," on the other hand, refers only to events occurring about Lake Pátzcuaro.[11]

The "Relaciones geográficas," written about 1580, refer almost entirely to houses with adobe walls and straw roofs, adding that they often are small and of little shelter. In the valley of the Río Balsas, houses of *bajareque* (poles or canes interwoven and plastered with clay) are described but this type is not referred to in *tierra fría*. Sahagún remarks: "Sus casas eran lindas, aunque todas ellas de paja."[12]

In Gilberti, reference is also made to adobe (iauárukata), stone (tsintsicata), and wood ("tsirincata, *hacer casas de caña o palos*"; "tsirindacata, *casa así hecha*"). In addition to "quahta, *casa*" (today k'uta', in Angahuan), Gilberti gives "*casa pajiza*, quaqua, acarutaqua, acxcata."

The plates of the "Relación de Michoacán" show that houses usually had a rectangular floor plan or, perhaps, sometimes a round floor plan (fig. 19, *j*, *k*; *m* is described in the text as a provisional

[9] Relaciones geográficas de Michoacán, unpublished. Copy in the National Museum of Mexico.

[10] F. Maturino Gilberti. Vocabulario en lengua de Michoacán, México, 1559.

[11] Relación de las ceremonias y ritos y población y gobernación de los indios de la provincia de Michoacán. Morelia, 1903.

[12] Fr. Bernardino de Sahagún. Historia general de las cosas de Nueva España. T. 3, p. 133. Mexico, 1938.

3:Beals, Carrasco & McCorkle E-5 (1940-1942) 1944
NU34 Tarasco NU34
Sierra Tarascans

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FIGURE 19.—Representations of houses in the plates of the "Relación de Michoacán."

shelter). The roofs appear to be of straw or palm, in some cases with a very large comb or crest undoubtedly resulting from the manner of interweaving the palm at the ridge of the roof. In other cases, the roof is pyramidal or conical and is surmounted by something which may be an inverted pottery vessel. This is what may be referred to by Gilberti: "hucahtsiqua, *un remate que se pone encima de la casa*," and "*chapitel de casa pajiza*, hucahtsiqua."[13] Verandas are depicted in the plates and references to them are made in the text.

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It is evident that modern houses do not correspond to those of the 16th century. Adobe walls may be pre-Hispanic, but the present methods of construction reveal Spanish influence.

[13] Hucahtsiqua (in the alphabet of the "Consejo de Lenguas Indígenas" jukájdakua) can be analyzed as "a thing placed on a summit."

[4.34a]

3:Beals, Carrasco & McCorkle E-5 (1940-1942) 1944
NU34 Tarasco NU34
Sierra Tarascans

342 Tiles are unquestionably Spanish in origin, and
177 the architectural types of the Lake resemble Spanish types more than they do the illustrations of the "Relación de Michoacán."

342 Wooden houses are not mentioned in the
127 "Relaciones geográficas" (fig. 20). Although the *cabeceras* described in these Relaciones are not in the Sierra, part of their territories are in the Sierra and some subject villages were in the Sierra. For example, the "Relación de Peribán" says: "las casas deste dicho pueblo e sus sujetos son pequeños e de poco sustén e muy baxas, son cubiertas de paxa y los cimientos de piedra y las paredes de adobes e barro". Among the subject towns of Peribán were San Francisco, Atapan, Charapan, and San Lorenzo, all villages of the Sierra, as well as others not identificable because the native name is not given, but which, from their description, are evidently in the Sierra.

The sole modern construction which might have been in existence in the 16th century is the úmutakata, for in Gilberti occurs "tairimba *troje asentado en cuarto palos.*" The houses of canes and poles (tairindacata of Gilberti) may have been similar, in a general way, to some modern kitchens of a simple type or to shelters.

342 The principal historical problem is to deter-
177 mine whether the shake roof and the log wall with interlocking corners is of European or pre-
171 Hispanic American origin. Both elements are well known in Europe and were introduced in North America, the interlocked log walls being brought by Swedish colonists to the Delaware River. In our case, information is scanty. We do not find references to log houses from before the Conquest or early Colonial times. As to the shakes, the question appears somewhat clearer. The Spanish and Tarascan words for shake (*tejamanil*, tasámani) are both derived from the Nautl tlaxamanilli, a descriptive word meaning "split thing." Nevertheless, shakes are known in Spain,[14] and their Spanish origin in Mexico is confirmed by the Relación of 1581 on the Taxco region near Michoacán, stating that shakes were used as covering for Spaniards' houses, those of the Indians being thatched.[15] A similar situation is found today in the Tsotsil region of

[14] In shepherds' huts of the Basque country. Anales del Museo de Pueblo Español, vol. 1, p. 91, pl. 7. 1935.
[15] Papeles de Nueva España, vol 6, p. 281. Madrid, 1905.

3: Beals, Carrasco & McCorkle E-5 (1940-1942)1944 NU34 Tarasco NU34
Sierra Tarascans

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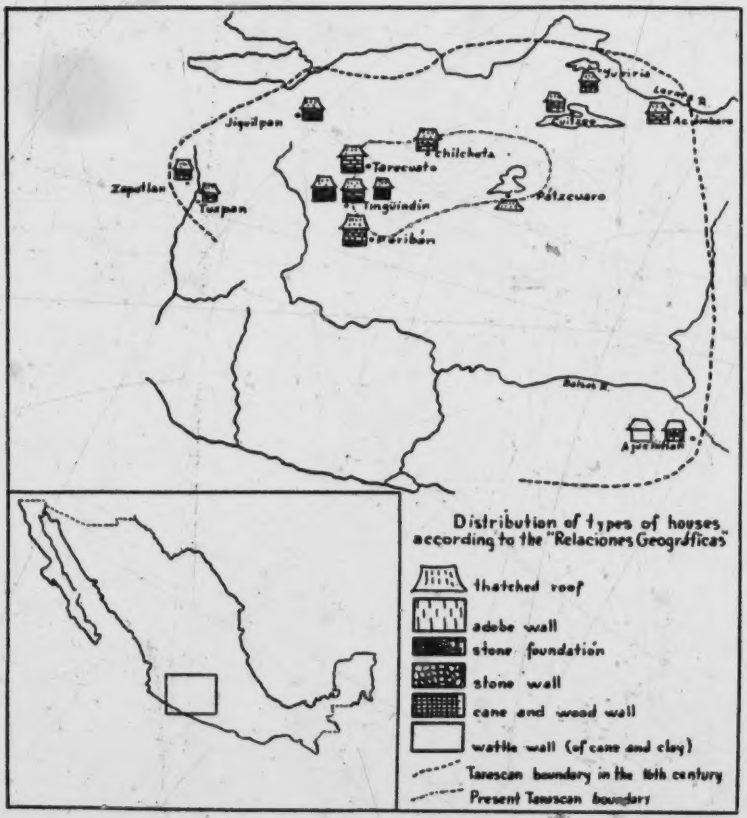

FIGURE 20.—Distribution of types of houses according to the "Relaciones geográficas."

[p.35

342 Chiapas, where *ladinos* use tiles or shakes for their houses while Indians continue to use thatch.
177 It seems sound, then, to assume that shakes
[171] were introduced into Mexico by a small group of Spaniards, and that their use spread rapidly and intensely in wooded country. As shakes were probably unknown to a great part of the Spaniards, the Nauatl descriptive word prevailed over the Spanish one.

342 The history of shakes and of interlocked log
171 structures cannot, however, be resolved definitively without taking into account all the data from Middle America. At the present time, log structures are found among the Trique, Mixteca, and Mixe in Oaxaca; in the region between Perote and Jalapa, in the Sierra de Puebla; and among the Tepehuano and the Tarahumara. Shakes have a wider distribution.

343 The modern use of the Spanish word *troje* and
127 the Tarascan *tarímba* (in Angahuan) suggests that these were once granaries which have evolved into the modern wooden house. In the "Relación

[Continued on p.36b]

CONTEMPORARY TARASCAN HOUSING PROBLEMS

362 In the Introduction of this paper, a number of problems were discussed relating to the evaluation of Tarascan housing.

Although accurate determination of value standards for setting ideal goals for Tarascan houses is not pretended, some general conclusions seem possible. Tarascan houses are below the most desirable health standards from the standpoint of dryness, ventilation, protection from cold, and freedom from insects. In general, the wooden type of architecture is less damp and better ventilated. It is perhaps less warm, a deficiency compensated for by use of the fire in the kitchen, with the additional drawback, of course, of smoke irritation of the eyes and respiratory tract. There seems little to choose between the two types of construction from the standpoint of rodents and insects.

Economically, the masonry-adobe type of construction seems to be a little cheaper. For most Sierra Tarascans, however, this advantage is illusory and only holds for those who can afford to hire all the labor done. The masonry-adobe construction calls for the employment of specialists throughout. Most Sierra Tarascan males, on

[p.36a] [Continued bottom of page 36b]

343 de Michoacán" we read about *trojes* for storing
127 food, clothes, and idols, but no reference is made to the shape or building materials of these *trojes*. Probably we have here a precedent to the clear-cut distinction between *troje* and *cocina* of the modern Sierra Tarascans.

342 To summarize, we may conclude that the pre-
174 Hispanic houses were predominantly of adobe,
177 with thatched, four-shed roofs. The Spaniards introduced tile roofs and modifications in the architectural type. On the other hand, new iron tools and building techniques (shakes and probably interlocking logs) favored the use of wood in construction on a large scale. Although wooden houses have their center of distribution in the Sierra, they are still found in the regions of Uruapan, La Cañada, Lake Pátzcuaro, and elsewhere, once having been much more common in those districts. With timber becoming increasingly scarce, adobe construction has virtually displaced wood in the adjoining districts and is invading the Sierra.

CONTEMPORARY TARASCAN
HOUSING PROBLEMS

362 the other hand, are capable of doing a considerable amount of the necessary work on a wooden structure. For those below the higher economic levels, then, it is probable that wooden structures are potentially less expensive than are those of masonry and adobe. In other words, in terms of the distribution of skills within the population, wooden structures are more apt to produce adequate housing if space be the main objective. It should be observed, however, that this probably is not true in many Lake and Cañada villages, where access to timber is absent or difficult, but skill in making adobe bricks is common.

As has been indicated, about 20 percent of the population of Cherán is inadequately housed according to Tarascan standards. For these, any change in housing conditions quite obviously is related to wider economic problems and conditions. What of the other 80 percent according to ideal standards? Until medical determination is made of the proper amount of living space per person in the Tarascan climate, no complete answer to this question can be made. It can be asserted, however, that better housing is possible for most of this 80 percent if two things could be accom-

3: Beals, Carrasco & McCorkle E-5 (1940-1942)1944 NU34 Tarasco NU34
Sierra Tarascans

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[342]

Upper: Angahuan, showing the rectangular arrangement of streets and the large lots. *Lower:* A portion of the town of Cherán, viewed from the hill in the northwest section, which furnishes most of the stone used in building.

[End plate 1]

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Right: Street near the plaza in Cherán. A stone-and-adobe whitewashed atructure is visible near the church. The center shows a well-built stone-and-adobe fence capped with straw and shakes, while the houses are of wood. A typical roofed gate is visible left of center. *Left:* Two types of pole fence in Capacuaro. In Cherán such fences are usually found only between lots.

[End plate 3]

3: Beals, Carrasco & McCorkle E-5 (1940-1942)1944 NU34 Tarasco NU34
Sierra Tarascans

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Upper (left): Kitchen of simple type with corner posts (Angahuan). *Upper (right)*: Kitchen of elaborate type (Angahuan). The gate or half door is rare in Cherán. *Middle (left)*: Wooden "*troje*" at Ihuatzio, Lake Pátzcuaro, with tile roof and adobe support for the ridge pole. *Middle (right)*: Storehouse of style found mainly in Angahuan (*úmutakata*). *Lower (left)*: Large storehouse (*úmutakata*) over gate. *Lower (center)*: Storehouse (*úmutakata*) with lower part made into a room. *Lower (right)*: Storehouse (*uakáli*) in Capacuaro.

[End plate 6]

3: Beals, Carrasco & McCorkle E-5 (1940-1942)1944 NU34 Tarasco NU34
Sierra Tarascans

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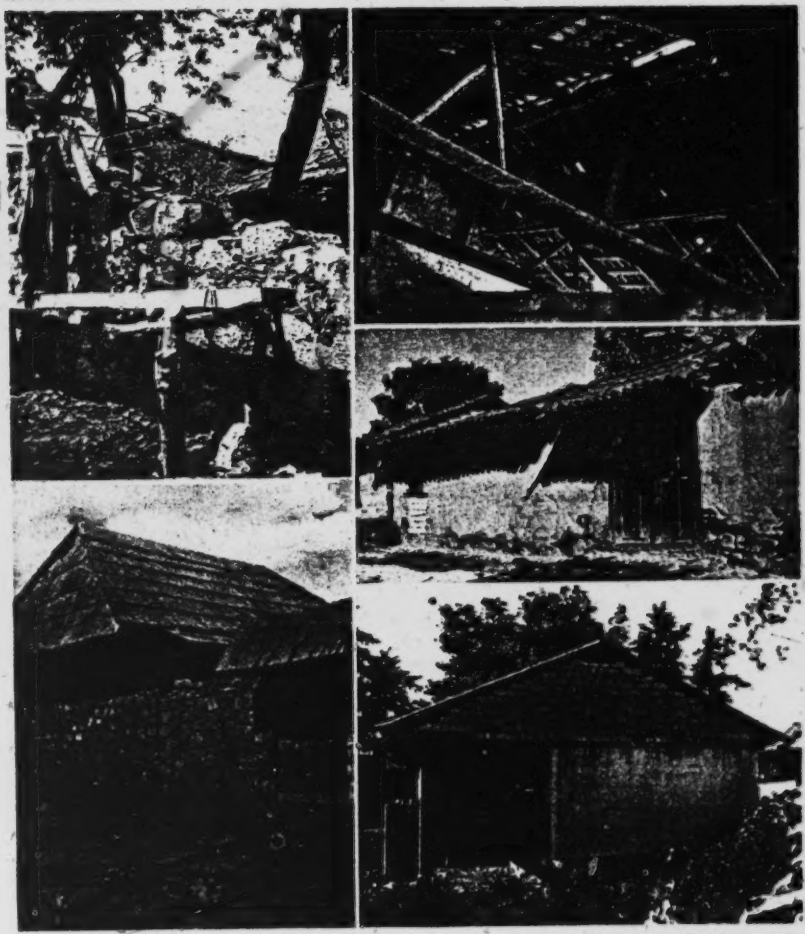
[333]



Upper (left): Mason at work in Cherán. *Upper (right):* Fairly elaborate roof construction at Ihuatzio typical of adobe structures. *Middle (right):* Gate roofed with tile, Ihuatzio. *Lower (left):* Stone house at Paracho with shake roof of *"troje"* style. *Lower (right):* Ihuatzio house with veranda, seen from one end. The *"plancha,"* or plate, is carried clear across the house in this case and doubled at the ends. The wooden support, or "hawite," for the ridge pole is clearly seen.

[End plate 7]

4: West K-5 (1946) 1948 NU34 Tarasco NU34
[P. 27-b]

HOUSE TYPES [34a]

342 The most striking material cultural element of the modern Tarascans is the wooden house (*troje*), constructed of logs or large planks placed horizontally and interlocked at the corners by notching or cogging in a fashion similar to the log house of Scandinavia.[35] Ordinarily the Tarascan structure is square or rectangular in plan, carries a 4-shed roof of shakes, and has a porch or veranda

[34a] Gillow Beals, Carrasco, and McCorkle (1944) have discussed Tarascan house types in some detail, only a summary of the subject will be given here.

[35] South of Lake Pátzcuaro the wooden *troje* often lacks the usual notched corners, but the ends of the planks are housed in an L-shaped cornerpiece (pl. 8).

3: Beals, Carrasco & McCorkle E-5 (1940-1942)1944 NU34 Tarasco NU34
Sierra Tarascans

Left: A well-built stone structure in Paracho with the wide eaves characteristic of Central Michoacán. *Right:* Scene in a house-roofing fiesta in Cherán. The house owner is in the foreground bedecked with strings of bread and flowers; the relatives are in the background.

[End plate 8]

4: West K-5 (1946) 1948 NU34 Tarasco NU34
[P. 27 C]

342 attached to the front, which usually faces away from the street and toward the interior of the house lot (pl. 3). The wooden *troje* is found mainly in the Sierra, where constructional materials are abundant, and extends south to the limit of the pine forest; its eastern limit has not been determined. In the Lake, La Cañada, and northern areas houses with adobe or stone walls, rectangular plan, and two-shed roofs of tile predominate. The above distributions, however, are not rigid; occasionally a few old wooden *trojes* are encountered in the towns around the lake and in the northern plateau (pl. 4), and adobe and stone construction is increasing in the Sierra.

[TEXT CONTINUES BOTTOM OF P. 28b---ANALYST]

592 **Functional aspects.**—Among the Tarascans the agglomeration of buildings in an individual lot include the principal house, the kitchen, burro stable, hogpen, and frequently certain storage structures. The head of a household may build two or more sets of houses and kitchens in his lot for his married sons. The main house (the wooden 342 *troje* in the Sierra or the adobe structure in the surrounding areas) serves principally as a storehouse. The maize harvest is stored in the loft [251] (*tapanco*), which is floored with heavy planks and entered through a trap door by means of a ladder or notched log. In the lower room (floored with planks in the wooded *troje*, often dirt-floored in the adobe house) are stored small grains, clothes, personal valuables; it is also used to house images of various saints, to entertain guests, and as sleeping quarters for them; some members of the family (usually marriageable girls) often sleep in

4: West K-5 (1946) 1948 NU34 Tarasco NU34
[P. 28-C] Sierra

342 the main house. The veranda, too, is used for storing boxes, lumber, etc., and is sometimes employed as a workplace and for sitting and gossiping.

343 The kitchen (kosina) is a separate building, usually less well constructed than the main house. In the Sierra it is often made of thin planks placed vertically and carries a two-shed roof. Kosinas of horizontal interlocked planks and four-shed roofs are sometimes seen. The chimney is unknown; smoke escapes through cracks or especially constructed vents in the roof. The kitchens in the areas outside the Sierra are usually of adobe with two-shed roofs of tile or shakes; some are flimsily constructed of upright planks or of brush, and carry a one-shed roof.[39] Obviously, the kitchen is where food is prepared and eaten;

[Text continues bottom P. 29b]

[39] In some towns where the Spanish L- or U-shaped house is present, the kitchen forms one of the rooms in the main structure.

4: West K-5 (1946) 1948 NU34 Tarasco NU34
[P. 29-C] Sierra

The house lot is fenced
351 with adobe, stone, or logs; the portion facing the street may be enclosed by a high wall of planks, stone, or adobe, which joins the house at one end. Such structures are called ꞓanꞓakata in the Sierra (pl. 3). Various types of gates are used at the entrance to the house lot; the more common are the double-door affair, and those with logs placed horizontally in slots carved in opposite upright posts.

Historical aspects.—The provenience of the
342 wooden *troje* presents one of the most puzzling
171 features in Tarascan culture history. The structure of interlocked logs or planks is a relatively uncommon house type in Mexico, where it has a disjunct distribution. It is found in (1) Oaxaca among the Mixe, Mixtec, and Trique groups;

342 (2) Veracruz on the northern slopes of the Cofre
171 de Perote; (3) the Sierra Madre Oriental between Apulco and Huayacocotla near the Hidalgo-Veracruz border and near the Pan American highway northeast of Jacala, Hidalgo; (4) the Sierra Madre Occidental (Durango and Chihuahua); (5) isolated spots in the Sierra Madre del Sur (Guerrero) west of Chilpancingo; and (6) the Tarascan Sierra of Michoacán. The log cabin in
342 Durango and Chihuahua possibly may have been
171 introduced by United States Confederate refugees,
177 a few of whom settled in the Sierra Madre in the late 1860's and 1870's. Located near one of the main Veracruz-México roads, the Perote people also may have obtained the idea of interlocked logs from United States or European travelers or settlers. The plank structures of Michoacan are technically superior to the North American log cabin (introduced into the North American colonies from Scandinavia in the 17th century), and are known to have existed since the last quarter of the 18th century. Log cabins were apparently unknown in Spain during the colonial period. The idea of their construction may have been introduced into Mexico from northern Europe.

342 There is nothing in the Relación de Michoacán or in the available Relaciones Geográficas (Muc. Nac., leg. 102) that indicates the presence of log structures among 16th-century Tarascans.[39] The native houses were constructed of adobe or stone with four-shed straw-thatched roofs. The first definite evidence of the modern *troje* that the writer has encountered appears in the Calderon report of 1789 (AGN Historia, vol. 73), which mentions ". . . jacales de . . . vigas horizontales cubiertas de tajamanil . . ." in Turícuaro (f. 336v), ". . . cuatro trojes de Maderas de Pino, bien construidas y conservadas . . ." in Nocutzepo (Lake Pátzcuaro) (f. 301), and ". . . chozas (or casas) de madera . . ." in many other towns in the Sierra (map 18). In most pueblos, however, wooden houses were mingled with those of stone or adobe. Moreover, houses constructed of small logs or poles placed vertically (*"estacas plantadas"*) were

[712] [39] Log fortifications were constructed by the Tarascans at Tzintzuntzan (Ciudad Hidalgo) in pre-Spanish times (Stanislawski, 1947 a, p. 46). There is no evidence, however, that the notching technique was known. For a description of pre-Conquest Tarascan houses, see Beals, Carrasco, and McCurdy, 1944, pp. 23-26.

342 widespread both in the Sierra and in surrounding
[177] areas. The modern *troje*, then, appears to have been introduced into Michoacán sometime between 1580 and 1780.

Some native constructional and functional elements were applied to the log or plank structure. For instance, the square floor plan and the four-shed roof were common features of the aboriginal house. Again, the use of the *troje* as a storehouse and the retention of the separate kitchen as living quarters would seem to indicate application of native uses to an introduced element. The storage of grain in the loft, however, may be an introduced European trait. As in most parts of indigenous Mexico, separate granaries (*trojes*) were possibly employed by pre-Conquest Tarascans.[40]

342 The wooden *troje* is disappearing in the Tarascan area. As mentioned above, a few old structures exist in some of the towns outside the Sierra. According to the local inhabitants, such *trojes* were formerly more numerous; however, there is no evidence that the entire town was once composed of wooden houses. Owing to decrease in large pines and firs, the cheaper adobe and stone structures are gradually replacing the *troje* in the Sierra towns.[41] Only a few small Sierra villages and *ranchos* consist entirely of wooden structures.

342 In addition to the interlocked plank house,
177 various roofing materials have been introduced into the Tarascan area (as well as into all parts of Mexico). Aboriginally, houses were roofed with grass or palm thatch, which is still employed in the *tierra caliente* of Michoacán. During the last half of the 16th century Basque miners probably introduced the shake (*tejamanil*) to roof their houses and ore refineries at the mining centers in central Mexico.[42] From the mines the use of shakes gradually spread to Indian villages situated

[Text continues top of P. 32-a]

[40] One of the "temporary structures" depicted in the Relación de Michoacán is similar to the modern vaulform granaries (*cacaxtetl*) of parts of Morelos, Puebla, and Tlaxcala. Moreover, the original ms. of the Relación de Tiripitío, 1580 (in the Garcia Library, University of Texas, Austin), illustrates a vaulform *troje* similar to that shown in the Relación de Michoacán. The Tiripitío *troje* was of two stories, the lower floor being used to store maize, the upper, reached by a notched log, for storing clothes, personal valuables, etc.

[41] Fair adobe brick can be made in the Sierra by mixing the local soil (of low clay content) with pine needles.

[42] The Relaciones Geográficas of 1579-81 (Mss. Nac., leg. 102) invariably mention shaked roofs in mining centers of New Spain. In the modern Basque country, however, shakes are used to roof only shepherds' huts (Beals, Carrasco, and McCorkle, 1944, p. 34).

[P. 31]

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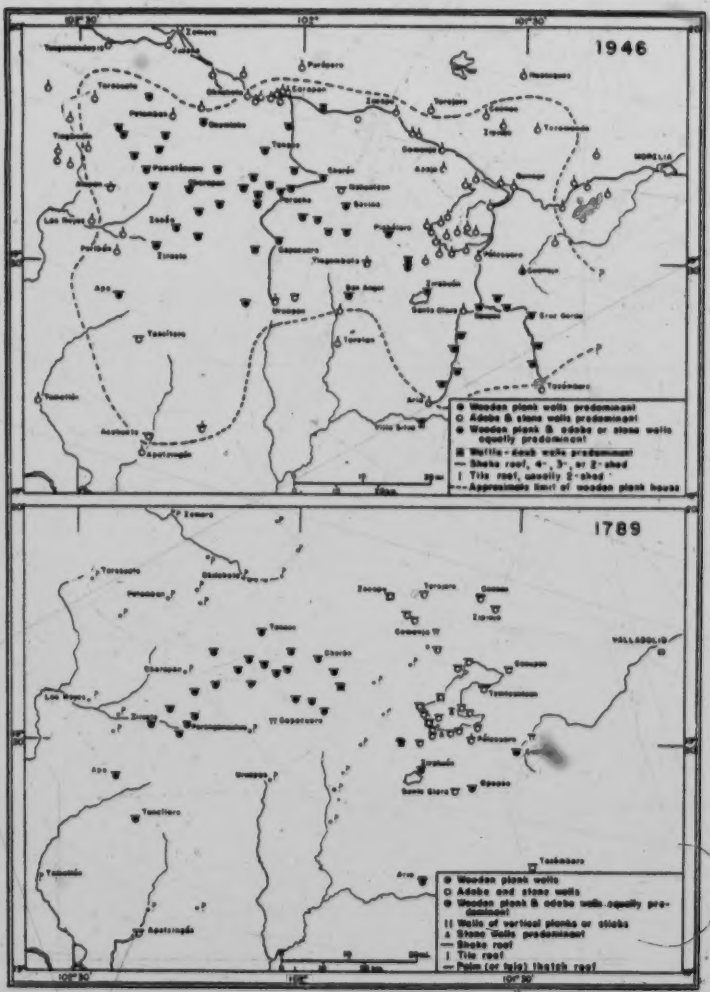

MAP 18.—Distribution of house types in the Tarascan area, 1789 and 1946. The 1789 data are from AGN Historia, vol. 73, Calderón report.

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342 177 within or near pine forests. By 1789 most of the buildings in Tarascan towns in the Lake and Sierra regions were roofed with shakes (map 18). Today in the towns bordering the Sierra the red Castilian tile has completely replaced *tejamanil* and is slowly penetrating into the Sierra towns.[41]

THE LAND SYSTEM AND THE PUEBLO

621 423 Tarascan settlements are fundamentally agricultural villages. They include not only dwellings arranged along streets and in house lots, but also the surrounding farm land. The land is the body of the pueblo, whose political and economic life revolves around land ownership and boundaries, crop planting and harvesting.

423 311 Few records exist on the ancient Tarascan land system; most lands, however, were probably held in common. Each community owned surrounding lands, the limits of which were determined by metes and bounds; the record and adjudication of pueblo boundaries were in the hands of the village chief, who apportioned agricultural plots to his subjects.[44] As in many modern Indian areas of Mexico, the aboriginal concept of village lands and their established boundaries is indurated in the present political and economic structure of the Tarascan pueblos.[45] Such holdings in the Sierra include various types of land: *monte*, or woodland pasture on steep mountain slopes and on lava flows; cropland in basin floors (*planes*, t'pákua), on lower mountain slopes (*laderas*, uanáten), and in craters of cinder cones (*joyas*, t'pákua-supíču). In La Cañada often the following lands are held by a given pueblo: irrigable alluvium on the valley floor, *temporal* lands and *monte* on the adjacent slopes, and *humedad* lands in the Sierra. In the Lake area types of land vary from pueblo to pueblo. Often small strips of irrigable vegetable plots are held along the lake shore; most towns hold *temporal* land on the lower slopes; those on

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[41] Although used in most Spanish towns (except mining centers) in New Spain since the late 16th century, tiles began to appear in the Lake Pátzcuaro district only in the late 18th century. In 1789 Pátzcuaro was the only town in the vicinity with tile roofs (approximately 80 percent of the houses were roofed with tile, the remainder, with shakes). In the same year one house in Naranja boasted of a tile roof. (AGN Historia, vol. 73, ff. 285, 318.)

[44] A copy of an aboriginal land title (1519) of Cheranátzicurin is extant in AGN Tierras, vol. 867, exped. 5.

[45] In many respects the native land system in central Mexico paralleled that of 16th century Spain. Particularly was this true in regard to the concept of village holdings.

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PLATE 2.—Water supply and settlement. *a*, [illegible]ion aqueduct at Pamatácuaro, which brings water from the local spring (center) to the outskirts of town. *b*, Hoisting water from one of the public wells in Cherapan. *c*, Street in Ihuatzio, Lake Pátzcuaro. *d*, Panorama of San Jerónimo on Lake Pátzcuaro, showing compact assemblage of adobe structures. *e*, Partial view of Zacán near Paricutín Volcano (background), showing grid street pattern, scattered dwellings, and large lots. *f*, Los Conejos (San Juan Nuevo), founded in 1944 to house refugees from destroyed San Juan Parangaricutiro. Nearly all dojos were transported from old San Juan and reassembled on the new site. *g*, Street scene, Cherapan (Sierra). *h*, Street scene, Tiríndaro, Ibarra Basin. *i*, Plaza at Cherapan.

[End-plate 2]

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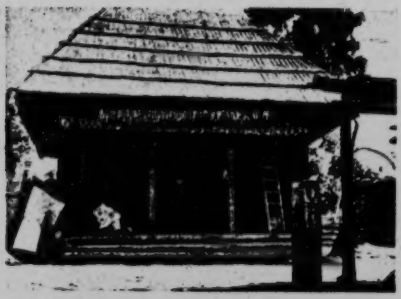

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PLATE 1.—Shaman types. *a*, Front view of hojo from inside house (*ts*), Quitaro. *b*, Back view of hojo from the street, Shankoo. Note the plank wall (*tanichanta*) to left of house. *c*, Elaborately carved door, Chanayan. *d*, Pueblo housed (*p*) adapted earthenware, Cuanajo. *e*, Notched plank ladder leading to loft o hojo, Chanayan. *f*, Roofed gate, Shankoo. *g*, Types of Tarascan houses. None to all houses.

[End-plate 3]

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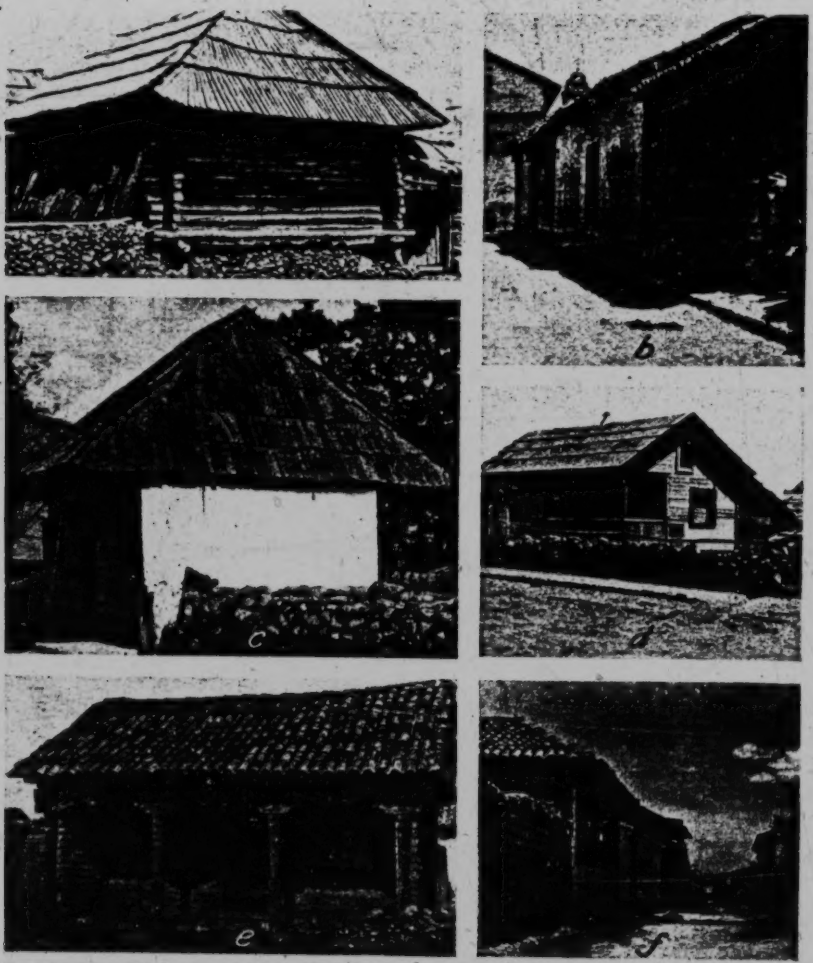

PLATE 4.—House types. *a*, Old log structure, Zacán. *b*, Old wooden style, Tzintzuntzan. *c*, Adobe house at Apo. The floor plan and roof are similar to those of the plank style. *d*, Wooden house at Cuitzeo del Porvenir, the ruined pueblo east of Uruapan. These new structures are North American in appearance. *e*, A thousand colonial pre-Aztec houses, San Jerónimo. *f*, Street scene, San Jerónimo. The house at left with the high verandahed front is often seen in Lake Pátzcuaro towns.

[End-plate 4]

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PLATE 7.—Horticulture and domestic animals. *a*, Large plowed ckuúa, San Felipe. Note animal pen adjoining *troje*. *b*, Small patch of cabbage in house lot, San Felipe. *c*, Vines of cheyote in ckuúa, Tanaquillo, La Cañada. *d*, Irrigated vegetable plot along west shore of Lake Pátzcuaro, near Arócutin. *e*, Ditch well and poles (t'apóratárakuecha) used to lift water from ditch to irrigate field. Near Urúapo. *f*, Sheep grazing in harvested maize field, near Tzintzuntzan. *g*, Herding sheep near summit of Cerro de Patamban. The flock is from the ranche of Uringuitiro. *h*, Bee hives in house lot, Arnejo.

[End-plate 7]

11: Boyd H-4, 5 (1953) 1958
[End Plate 2]
NU34 Tarasco NU34

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Plate II. Tarascan Houses and Mode of Travel

[96] *Upper,* Tarascan homes, wooden fences are a recent innovation.
[103] *Lower,* Tarascans returning to mountains after selling firewood in
[438] Morelia.

11: Boyd H-4, 5 (1953) 1958
[End Plate 3]
NU34 Tarasco NU34

Plate III. Views in Morelia

Upper, Ignacio Peña, narrator of the myth of creation, in front of author's apartment.

Lower, Spanish aqueduct built to bring water from mountains to city.